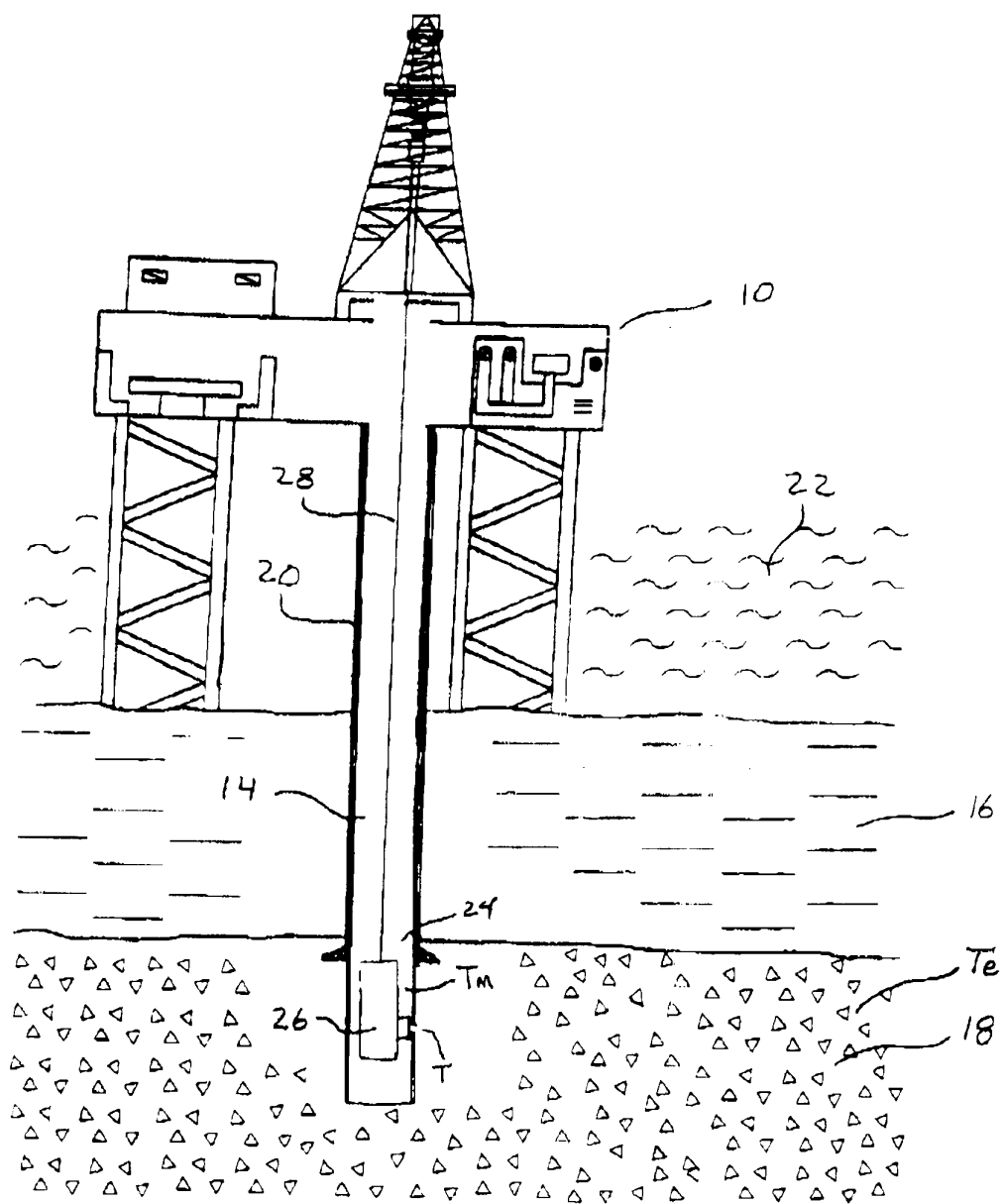


**FIG. 1**  
Prior Art



**FIG. 2**  
Prior Art

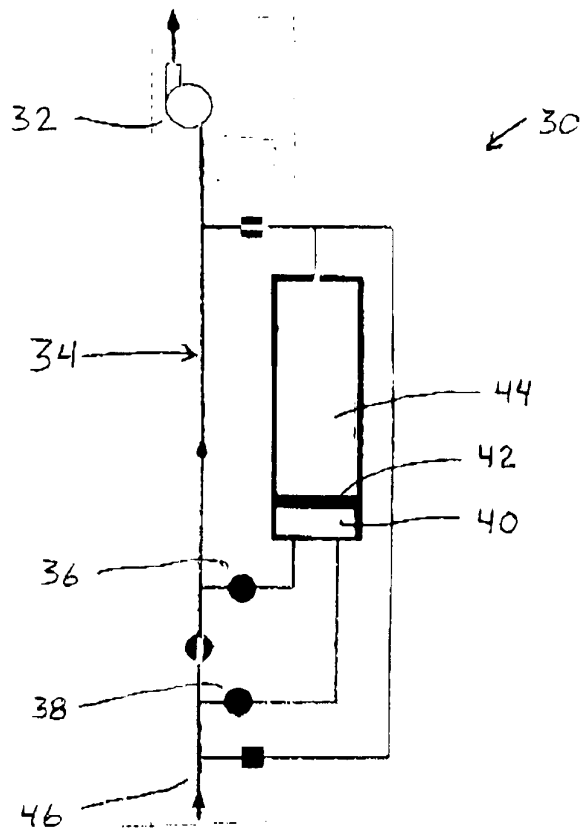


FIG. 3  
Prior Art

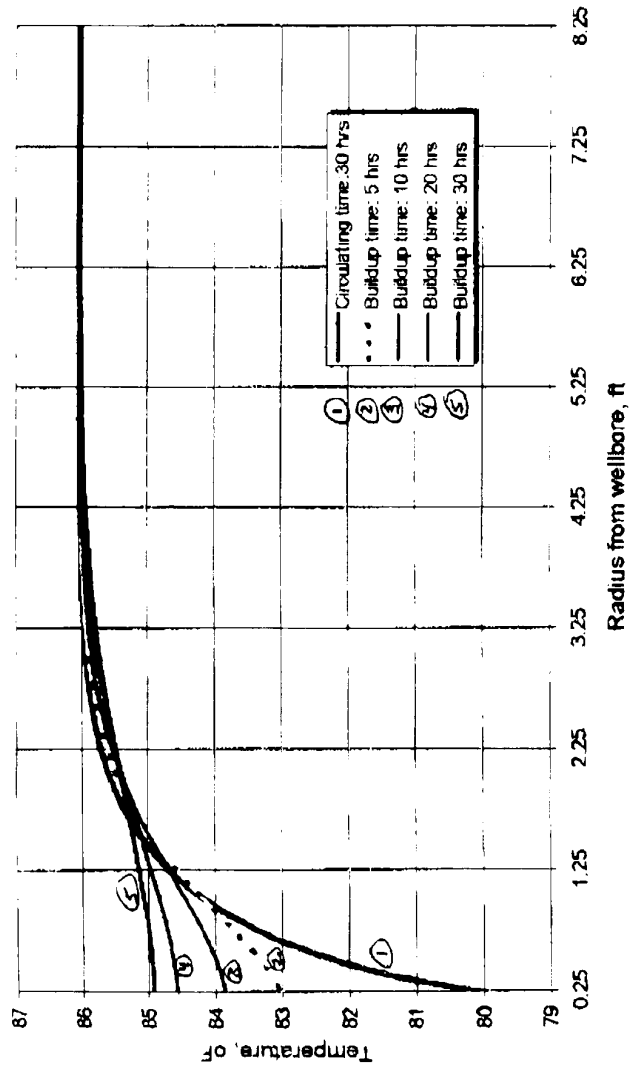


Fig. 4 Radial temperature distribution at the end of mud circulation and during buildup.

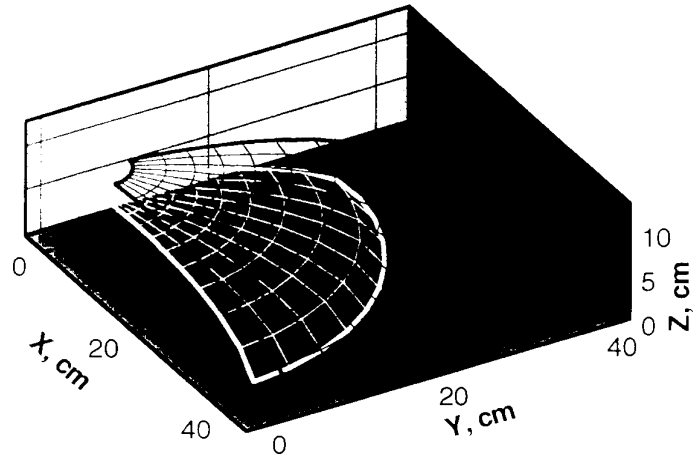


FIG. 5

Fluid flow profiles at various drawdown time (1 min, 10min, 60min, 122min).

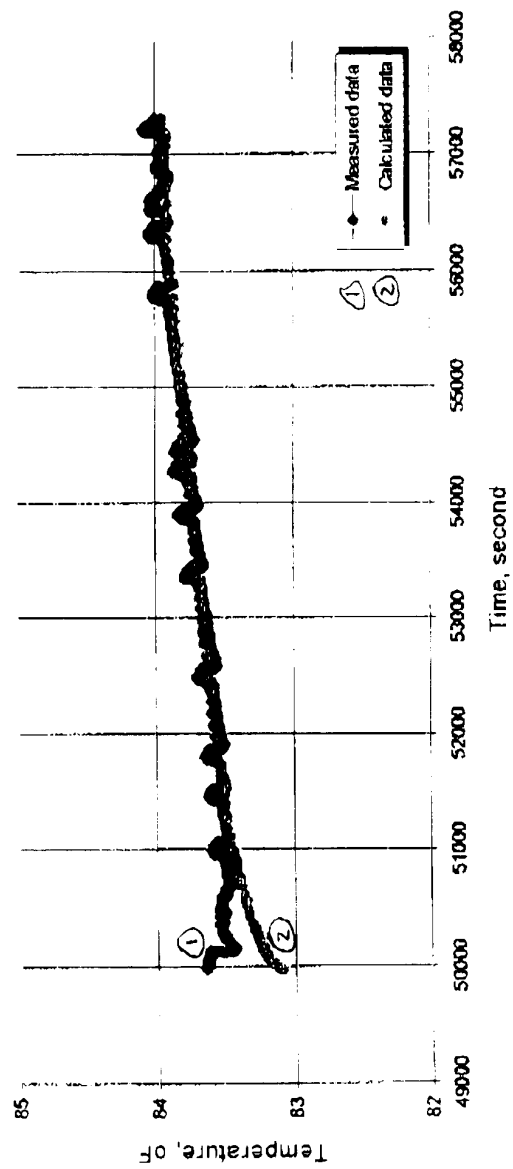


Fig. 6 Matching results of calculated and measured temperatures at sink probe.

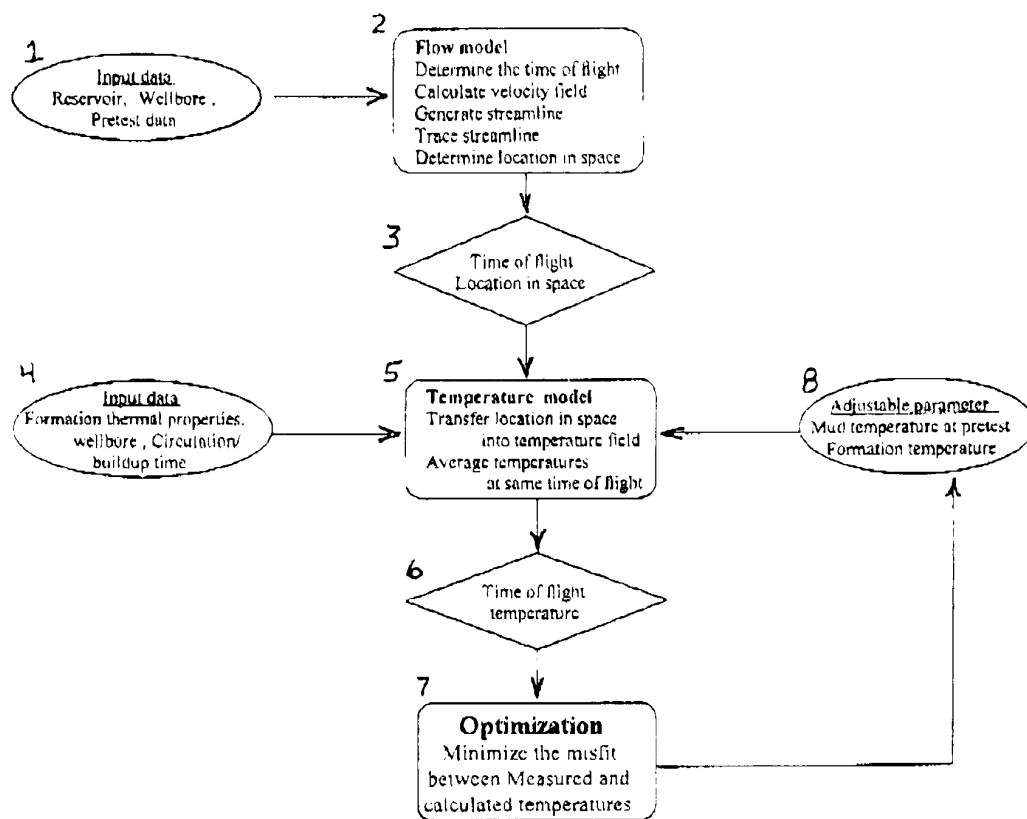


Fig 7 Schematic diagram